

gp41 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp41(526-543 BH10)	5F3	y	?	AAGSTMGAASMTLTVQARQ	HIV-1 infection	human(IgG _{1κ})
	o [Buchacher et al.(1994)]					
	• 5F3: Human MAbs against HIV generated by electrofusion of PBLs from HIV-1+ volunteers with CB-F7 cells [Buchacher et al.(1994)]					
gp41(526-543 BH10)	25C2	y	n	AAGSTMGAASMTLTVQARQ	HIV-1 infection	human(IgG _{1κ})
	o [Buchacher et al.(1992), Buchacher et al.(1994), Sattentau et al.(1995)]					
	• 25C2: Human MAbs against HIV generated by electrofusion of PBLs from HIV-1 positive volunteers with CB-F7 cells; binds oligomeric and monomeric gp41, as well as whole gp160 [Buchacher et al.(1994)]					
	• 25C2: Binding domain overlaps sites that are critical for gp120-gp41 association; Binding is enhanced by sCD4 [Sattentau et al.(1995)]					
gp41(526-543 BH10)	24G3	y	n	AAGSTMGAASMTLTVQARQ	HIV-1 infection	human(IgG _{1κ})
	o [Buchacher et al.(1992), Buchacher et al.(1994)]					
	• 24G3: Human MAbs against HIV generated by electrofusion of PBLs from HIV-1+ volunteers with CB-F7 cells [Buchacher et al.(1994)]					
gp41(526-543 BH10)	1A1	y	?	AAGSTMGAASMTLTVQARQ	HIV-1 infection	human(IgG _{1κ})
	o [Buchacher et al.(1994)]					
	• 1A1: Human MAb against HIV generated using EBV transformation of PBLs from HIV-1+ volunteers [Buchacher et al.(1994)]					
gp41(577-596 BRU)	PC5009	y	?	GIKQLQARILAVERYLKDQQ	rec gp160	murine
	o [Poumbourios et al.(1992)]					
	• PC5009: Recognized only monomeric gp41, apparently unrecognizable with oligomer [Poumbourios et al.(1992)]					
gp41(566-586 BRU)	α(566-586)	n	?	AQQHLLQLTVWGIKQLQARIL	HIV-1 infection	human
	o [Poumbourios et al.(1992)]					
gp41(577-596 BRU)	α(577-596)	n	?	GIKQLQARILAVERYLKDQQ	HIV-1 infection	human
	o [Poumbourios et al.(1992)]					
	• α(577-596) and α(566-586): affinity purified from HIV-1+ plasma; preferentially bind oligomer [Poumbourios et al.(1992)]					

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	<ul style="list-style-type: none"> ○ References ● Comments 					
gp41(598-609)	α(598-609)	n	?	GIWGCSGK	HIV-1 infection	human
	<ul style="list-style-type: none"> ○ [Poumbourios et al.(1992)] ● α(598-609) was affinity purified from HIV-1+ plasma; immunodominant region, binds oligomer and monomer [Poumbourios et al.(1992)] 					
gp41(584-606 BRU)	2A2/26	y	?	RILAVERYLKDQQQLLGIGWGCSGK	viral gp41	murine
	<ul style="list-style-type: none"> ○ [Poumbourios et al.(1992)] ● 2A2/26: Immunodominant region, binds both oligomer and monomer [Poumbourios et al.(1992)] 					
gp41(579-604 HXB2)	98-43	y	n	RILAVERYLKDQQQLLGIGWGCSGKLIC	HIV-1 infection	human(IgG _{2κ})
	<ul style="list-style-type: none"> ○ [Tyler et al.(1990), Xu et al.(1991), Gorny et al.(1989)] ● 98-43: Poor ADCC (in contrast to MAb 120-16, gp41(644-663)) [Tyler et al.(1990)] ● 98-43: 579-604 is an immunodominant region; Abs in human serum 100 fold higher to this region than downstream immunogenic region [Xu et al.(1991)] 					
gp41(591-597 HXB2)	181-D	y	?	QLLGIWG	HIV-1 infection	human(IgG _{2κ})
	<ul style="list-style-type: none"> ○ [Xu et al.(1991)] ● 181-D: Fine mapping indicates core is LLGIW; [Xu et al.(1991)] 					
gp41(592-600 HXB2)	240-D	y	?	LLGIWGCSG	HIV-1 infection	human(IgG _{1κ})
	<ul style="list-style-type: none"> ○ [Xu et al.(1991)] ● 240-D: Fine mapping indicates core is IWG [Xu et al.(1991)] 					
gp41(579-604 HXB2)	246-D	y	?	QQLLGIWG	HIV-1 infection	human(IgG _{1κ})
	<ul style="list-style-type: none"> ○ [Xu et al.(1991)] ● 246-D: Fine mapping indicates core is LLGI [Xu et al.(1991)] 					

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gp41(579-613 BH10)	1H5	y	n	ARILAVERYLKDQQQLLG IWGCSGKLICTTAVPWNA	HIV-1 infection	human(IgG ₁ (κ))
		○ [Buchacher et al.(1992), Buchacher et al.(1994)]				
gp41(579-613 BH10)	1F11	y	n	ARILAVERYLKDQQQLLG IWGCSGKLICTTAVPWNA	HIV-1 infection	human(IgG ₁ (κ))
		○ [Buchacher et al.(1992), Buchacher et al.(1994)]				
gp41(579-613 BH10)	4D4	y	n	ARILAVERYLKDQQQLLG IWGCSGKLICTTAVPWNA	HIV-1 infection	human(IgG ₁ (λ))
		○ [Buchacher et al.(1992), Buchacher et al.(1994)]				
gp41(579-613 BH10)	3D9	y	n	ARILAVERYLKDQQQLLG IWGCSGKLICTTAVPWNA	HIV-1 infection	human(IgG ₁ (κ))
		○ [Buchacher et al.(1992), Buchacher et al.(1994)]				
gp41(579-613 BH10)	4G2	y	n	ARILAVERYLKDQQQLLG IWGCSGKLICTTAVPWNA	HIV-1 infection	human(IgG ₁ (κ))
		○ [Buchacher et al.(1992), Buchacher et al.(1994)]				
gp41(579-613 BH10)	4B3	y	n	ARILAVERYLKDQQQLLG IWGCSGKLICTTAVPWNA	HIV-1 infection	human(IgG ₁ (λ))
		○ [Buchacher et al.(1992), Buchacher et al.(1994)]				
		● 1H5, 1F11, 4D4, 3D9, 4G2, 4B3: human MAbs against HIV generated by electrofusion of PBLs from HIV-1 positive volunteers with CB-F7 cells [Buchacher et al.(1994)]				

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gp41(584-609)	41-1	y	?	RILAVERYLKDQQQLLGIGWCGSGKLIC	gp160	murine(IgG ₁)
	o [Mani et al.(1994)]					
	• 41-1: did not require the Cys-Cys disulfide bridge and loop formation, can bind simultaneously with 9-11 [Mani et al.(1994)]					
gp41(584-609)	9-11	y	?	RILAVERYLKDQQQLLGIGWCGSGKLIC	gp160	murine(IgG ₁)
	o [Mani et al.(1994)]					
	9-11: required the Cys-Cys disulfide bridge and loop formation, can bind simultaneously with 41-1 [Mani et al.(1994)]					
gp41(596-599 IIIB)	9G5A	y	P?	QLLG	Anti-idiotype against M38	murine(IgM)
	o [Lopalco et al.(1993)]					
	• 9G5A: Anti-idiotype to gp120 C terminus (C5 region) MAb M38 [Lopalco et al.(1993)]					
gp41(644-663 HXB2)	120-16	y	n	SLIEESQNQQEKNEQELLEL	HIV-1 infection	human(IgG ₂)
	o [Tyler et al.(1990), Xu et al.(1991)]					
	• 120-16: Good ADCC (in contrast to MAb 98-43, gp41(579-604)) [Tyler et al.(1990)]					
	• 120-16: Less reactive region than Avery region; most Abs involving this region were conformational [Xu et al.(1991)]					

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gp41(662-667 BH10)	2F5	y	L P	ELDKWA	HIV-1 infection	human(IgG _{3(κ)})
	○ [Buchacher et al.(1992), Muster et al.(1993), Purtscher et al.(1994), Laal et al.(1994)]					
	○ [Buchacher et al.(1994), D'Souza et al.(1994), Trokla et al.(1995), Sattentau et al.(1995)]					
	● 2F5: Broadly reactive neutralizing activity, ELDKWA is relatively conserved; neutralized 2 primary isolates [Purtscher et al.(1994)]					
	● 2F5: Failed to show synergy with anti-CD4 binding site neutralizing antibodies [Laal et al.(1994)]					
	● 2F5: Human MAbs against HIV generated by electrofusion of PBLs from HIV-1 positive volunteers with CB-F7 cells [Buchacher et al.(1994)]					
	● 2F5: DKWA defined as the core sequence; highly conserved neutralizing MAb [Buchacher et al.(1992), Muster et al.(1993)]					
	● 2F5: Included in a multi-lab study for antibody characterization binding and neutralization assay comparison [D'Souza et al.(1994)]					
	● 2F5: Cross-clade neutralizing activity; LDKW defined as the core epitope [Trokla et al.(1995)]					
	● 2F5: Exposed in the presence of gp120 on the cell surface, while most of gp41 is masked [Sattentau et al.(1995)]					
gp41(662-667 BH10)	?	n	L	ELDKWA	chimeric influenza virus/ELDKWA	murine(IgG,IgA)
	○ [Muster et al.(1995), Muster et al.(1994)]					
	● Sustained ELDKWA specific IgA response in mucosa of immunized mice [Muster et al.(1995)]					
gp41(720-734 BH10)	B30	y	?	HLPIPRGPDRPEGIE	mis-folded LAI rgp160	murine(IgG ₁)
	○ [Abacioglu et al.(1994)]					
	● B30: Epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]					
gp41(727-734 BH10)	B31	y	?	PDRPEGIE	mis-folded LAI rgp160	murine(IgG ₁)
	○ [Abacioglu et al.(1994)]					
gp41(727-734 BH10)	B33	y	?	PDRPEGIE	mis-folded LAI rgp160	murine(IgG ₁)
	○ [Abacioglu et al.(1994)]					
gp41(727-732 BH10)	C8	y	?	PDRPEG	mis-folded LAI rgp160	murine(IgG ₁)
	○ [Abacioglu et al.(1994)]					

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gp41(733-741 BH10)	B8	y	?	IEEEEGGERD	mis-folded LAI rgp160	murine(IgG1)
	o [Abacioglu et al.(1994)]					
	• B31, B33, C8 and B8: Epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]					
gp41(735-752 IIIB)	LA9	y	L	DRPEGIEEGGERDRDRS	?	murine(IgM)
	o [Evans et al.(1989)]					
gp41(735-752 IIIB)	ED6	y	L	DRPEGIEEGGERDRDRS	?	murine(IgM)
	o [Evans et al.(1989)]					
gp41(735-752 IIIB)	1575	y	L	DRPEGIEEGGERDRDRS	Poliovirus/gp41 epitope chimera	murine
	o [Evans et al.(1989), Vella et al.(1993)]					
	• 1575: Neutralizing activity, less broad than 1577 [Evans et al.(1989)]					
	• 1575: Core epitope: IEEE; neutralized IIIB, but not RF or MN [Vella et al.(1993)]					
gp41(735-752 IIIB)	1576	y	n	DRPEGIEEGGERDRDRS	Poliovirus/gp41 epitope chimera	murine
	o [Vella et al.(1993)]					
	• 1576: Not neutralizing [Vella et al.(1993)]					
gp41(735-752 IIIB)	1577	y	L	DRPEGIEEGGERDRDRS	Poliovirus/gp41 epitope chimera	murine
	o [Evans et al.(1989)]					
	• 1577: Raised against IIIB peptide chimera; neutralized African and American HIV-1 lab strains [Evans et al.(1989)]					
	• 1577: Core epitope: ERDRD; could neutralize HIV IIIB and HIV RF [Vella et al.(1993)]					
gp41(735-752 IIIB)	1578	y	L?	DRPEGIEEGGERDRDRS	Poliovirus/gp41 epitope chimera	murine
	o [Evans et al.(1989), Vella et al.(1993)]					
	• 1578: No neutralizing activity; epitope may be formed by regions from both poliovirus and HIV [Evans et al.(1989)]					
	• 1578: Core epitope: IEEE; in this study, neutralized IIIB, but not RF or MN [Vella et al.(1993)]					
gp41(735-752 IIIB)	1899	y	L	DRPEGIEEGGERDRDRS	Poliovirus/gp41 epitope chimera	murine
	o [Vella et al.(1993)]					
	• 1899: Could neutralize HIV IIIB and HIV RF [Vella et al.(1993)]					
gp41(735-752 IIIB)	1579	y	L	DRPEGIEEGGERDRDRS	Poliovirus/gp41 epitope chimera	murine
	o [Vella et al.(1993)]					
	• 1579: Core epitope: IEEE; neutralized IIIB, but not RF or MN [Vella et al.(1993)]					

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	○ References					
	● Comments					
gp41(735-752 IIIB)	1583	y	L	DRPEGIEEGGERDRDRS	Poliovirus/gp41 epitope chimera	murine
	○ [Evans et al.(1989), Vella et al.(1993), Sattentau et al.(1995)]					
	● 1583: Neutralizing activity, less broad than 1577 [Evans et al.(1989)]					
	● 1583: Core epitope: ERDRD; Could neutralize HIV IIIB but not HIV RF [Vella et al.(1993)]					
	● 1583: Cytoplasmic domain, epitope not exposed at the surface of HIV-1 infected cells [Sattentau et al.(1995)]					
gp41(735-752 IIIB)	1907	y	n	DRPEGIEEGGERDRDRS	Poliovirus/gp41 epitope chimera	murine
	○ [Vella et al.(1993)]					
	● 1907: Could not neutralize HIV IIIB, RF or MN [Vella et al.(1993)]					
gp41(735-752 IIIB)	1908	y	L	DRPEGIEEGGERDRDRS	Poliovirus/gp41 epitope chimera	murine
	○ [Sattentau et al.(1995), Vella et al.(1993)]					
	● 1908: Neutralized IIIB, but not RF or MN [Vella et al.(1993)]					
	● 1908: Cytoplasmic domain, epitope not exposed at the surface of HIV-1 infected cells [Sattentau et al.(1995)]					
gp41(735-752 IIIB)	1909	y	L	DRPEGIEEGGERDRDRS	Poliovirus/gp41 epitope chimera	murine
	○ [Vella et al.(1993)]					
	● 1909: Neutralized HIV IIIB but not HIV RF [Vella et al.(1993)]					
gp41(824-830 BH10)	4E10	y	L	AEGTDRV	HIV-1 infection	human(IgG ₃ (κ))
	○ [Buchacher et al.(1992), Buchacher et al.(1994), D'Souza et al.(1994)]					
	● 4E10: Human MAbs against HIV generated by electrofusion of PBLs from HIV-1+ volunteers with CB-F7 cells					
	4E10 also binds to MHC class II proteins; anti-class II Abs are only found in HIV-1 positive people [Buchacher et al.(1994)]					
	● 4E10: Included in a multi-lab study for antibody characterization, binding and neutralization assay comparison [D'Souza et al.(1994)]					